CLAIMS

What is claimed are:

1. A method of manufacturing a flash memory device, comprising the steps of:

sequentially forming a tunnel oxide film and a first polysilicon film on a semiconductor substrate and then etching said first polysilicon film and a given region of said tunnel oxide film;

forming a lower oxide film on the entire structure;

performing a nitrification process to form a nitrogen layer below said lower oxide film;

performing an annealing process using an oxygen gas so that said nitrogen layer is moved on the surface of said lower oxide film, thus forming a nitride film;

forming a upper oxide film on the entire surface to form a dielectric film consisting of said lower oxide film, said nitride film and said upper oxide film;

sequentially forming a second polysilicon film, a tungsten silicide film and an anti-reflection film on the entire structure; and

patterning said anti-reflection film, said tungsten silicide film, said second polysilicon film and said dielectric film to form a control gate, and then patterning said first polysilicon film and said tunnel oxide film to form a floating gate.

2. The method of manufacturing a flash memory device according to claim 1, wherein said lower oxide film is formed using DCS gas and N_2O or NO gas at the temperature of 810 ~ 850℃.

3. The method of manufacturing a flash memory device according to claim 1, wherein said lower oxide film is formed in thickness of 35 ~ 100Å at the deposition rate of 4 ~ 10Å/min.

4. The method of manufacturing a flash memory device according to claim 1, wherein said nitrification process is performed by introducing N_2O or NO of 1 ~ 20ℓ into the furnace at the temperature of 810 ~ 850℃ for 10 ~ 20 minutes, thus forming a nitrogen layer of 3 ~ 5Å in thickness in said lower oxide film.

5. The method of manufacturing a flash memory device according to claim 1, wherein said annealing process using the oxygen gas is performed by introducing an oxygen gas of 5 ~ 20ℓ into the furnace at the temperature of 850 ~ 950℃ for 5 ~ 20 minutes.

6. The method of manufacturing a flash memory device according to claim 1, wherein said upper oxide film is formed using DCS gas and N_2O or NO gas at the temperature of 810 ~ 850℃.

7. The method of manufacturing a flash memory device according to claim 1, wherein said upper oxide film is formed in thickness of 35 ~ 100 Å at the deposition rate of 4 ~ 10 Å/min.

8. The method of manufacturing a flash memory device according to claim 1, wherein said second polysilicon film is formed in a double structure of a doped polysilicon film and an undoped polysilicon film.

9. The method of manufacturing a flash memory device according to claim 8, wherein said polysilicon film and said undoped polysilicon film is deposited at the ratio of 4:1 ~ 7:1.